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10/590,283	08/22/2006	Akihiro Suzuki	TIP 049	8072
23408	7590	09/27/2010		
Gary C. Cohn, PLLC 215 E. 96TH ST., #19L New York, NY 10128			EXAMINER SCHIFFMAN, BENJAMIN A	
			ART UNIT	PAPER NUMBER
			1791	
			NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

garycohn@seattlepatent.com

Office Action Summary

Application No.

10/590,283

Applicant(s)

SUZUKI, AKIHIRO

Examiner

BENJAMIN SCHIFFMAN

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-9 and 11-26 is/are pending in the application.
- 4a) Of the above claim(s) 11-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-9, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

1. The papers submitted on 17 March 2010, amending claims 1 and 9, adding claims 25 and 26 and canceling claims 2, 3 and 10, are acknowledged.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).
3. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

4. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 4-9, 25 and 26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2 and 6-8 of U.S. Patent No. 7,101,504 in view of Leenslag et al. (*Resorbable Materials of Poly(L-lactide). V. Influence of Secondary Structure on the Mechanical Properties and Hydrolyzability of Poly(L-lactide) Fibers Produced by a Dry-Spinning Method*).

6. Regarding claims 1, 4-9, Patent '504 claims a method of manufacturing drawn filaments which comprises heating original filaments supplied from a filament supply means by infrared beams, drawing the filaments to 1000 times or more under a tension provided by the own weight of the filaments, or under a tension of 1 MPa or less. The filaments are heated within a range of 8 mm, i.e. within 4 mm of an axial up and down direction. The filaments are further heated and drawn in a heating and drawing zone. The filaments are accumulated on a running conveyor. Although '504 does not explicitly claim that multiple filaments are heated simultaneously, one of ordinary skill in the art would recognize that this is a mere duplication of parts (**see clm. 1, 2 and 6-8**).

7. Regarding claim 25 and 26, Patent '504 does not appear to expressly disclose that the filaments are biodegradable aliphatic polyester.

8. However, Leenslag discloses hot drawing of poly(L-lactide) (PLLA) filaments (**see pp. 2830-2831 EXPERIMENTAL**).

9. At the time of invention, it would have been *prima facie* obvious to one of ordinary skill in the apply the method of Patent '504 to the fibers of Leenslag, because it is known to hot draw PLLA filaments and hot drawing the filaments with the method of Patent '504 would improve the PLLA filaments in the same way.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 1 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2003-16615 A) in view of Ohkoshi et al. (US 6,497,952 B1).

13. Regarding claim 1, Suzuki discloses a method for manufacturing drawn filament, comprising the steps of drawing an original filament to a draw ratio of 1000 times or more by tension of 1 MPa or less per single filament while to heating with an infrared beam (see abstract

and para. 11), wherein the beam diameter is 4.3 mm (**see para. 41**), which when aimed at a fiber would be within a maximum of 2.15 mm, i.e. the radius, in an up and down axial direction from the center of the filament, which overlaps the claimed range (**see MPEP 2144.05**).

Additionally, Suzuki teaches that the process can be applied to natural fibers, such as silk, which are inherently biodegradable (**see para. 15**).

14. Suzuki does not does not appear to expressly disclose a plurality of beams.

15. However, Ohkoshi discloses a method of applying an infrared beam to a fiber in order to heat and draw the fiber, where the beam is directed through a lens to control the length of irradiated fiber, between 0.1 and 100 mm (**see col. 5 l. 42-48**), and that the beam is reflected back at the fiber, i.e. a plurality of beams, (**see col. 7 l. 43-50**).

16. At the time of invention, it would have been *prima facie* obvious to one of ordinary skill in the art to modify the method of Suzuki to include the beam control of Ohkoshi, in order to control the size of the irradiated region of the thread and control the temperature of the thread during drawing. Additionally one of ordinary skill in the art would be motivated to optimize the size and number of beam in depending on known process variables, such as throughput, fiber composition, and beam power. Further, at the time of invention, it would have been *prima facie* obvious to one of ordinary skill in the art to modify the method of Suzuki to include biodegradable filaments, because the specific type of filament is an intended use of the final filament, and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Further, a preamble is generally not accorded any

patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

17. Regarding claim 8, Suzuki discloses that multiple filaments are drawn simultaneously in the same beam (**see para. 90**).

18. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2003-16615 A) in view of Ohkoshi et al. (US 6,497,952 B1) as applied to claim 1 above, further in view of Davis et al (US 4,101,525).

19. Suzuki does not appear to expressly disclose further heating and drawing the drawn filament in heating and drawing zones.

20. However, Davis discloses a method of drawing a filament (**see abstract**) wherein the drawn filament is subjected heating and drawing in zones (**see col. 15 l. 22 to col. 16 l. 6**).

21. At the time of invention, it would have been *prima facie* obvious to one of ordinary skill in the art to modify the method of Suzuki to include further drawing and heating of Davis, in order to improve the properties of the final filament (**see col. 13 l. 61 to col. 14 l. 52**).

22. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (JP 2003-16615 A) in view of Ohkoshi et al. (US 6,497,952 B1) as applied to claim 1 above, further in view of Tanaka et al. (US 5,506,041).

23. Regarding claim 9, Suzuki does not appear to expressly disclose collecting the filaments on a running conveyor.

24. However, Tanaka discloses a method of forming biodegradable filaments (**see abstract**) that are collected onto a conveyor (**see col. 9 l. 46-68**).

25. At the time of invention, it would have been *prima facie* obvious to one of ordinary skill in the art to modify the method of Suzuki to include collecting the filaments on a conveyor of Tanaka because, fibers are commonly collected on conveyors in order to form non-woven fabrics as is well known in the art.

26. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over in view Suzuki et al. (JP 2003-16615 A) in view of Ohkoshi et al. (US 6,497,952 B1) as applied to claim 1 above, further in view of Leenslag et al. (*Resorbable Materials of Poly(L-lactide). V. Influence of Secondary Structure on the Mechanical Properties and Hydrolyzability of Poly(L-lactide) Fibers Produced by a Dry-Spinning Method*).

27. Suzuki does not appear to expressly disclose that the filaments are biodegradable aliphatic polyester.

28. However, Leenslag discloses hot drawing of poly(L-lactide) (PLLA) filaments (**see pp. 2830-2831 EXPERIMENTAL**).

29. At the time of invention, it would have been *prima facie* obvious to one of ordinary skill in the apply the method of Suzuki to the fibers of Leenslag, because it is known to hot draw PLLA filaments and hot drawing the filaments with the method of Patent '504 would improve the PLLA filaments in the same way.

Response to Arguments

30. Applicant's amendment/arguments, see p. 7, filed 17 March 2010, with respect to the objections to the title and claims 9 and 10 and the 35 U.S.C. § 112, second paragraph, rejection of claims 1-10, have been fully considered and are persuasive. The objection(s)/rejection(s) have been withdrawn.

31. Applicant's arguments, see pp. 7-9, filed 17 March 2010, with respect to the double patenting and 35 U.S.C. § 103(a) rejection(s) of claims 1 and 4-9, have been fully considered and are not persuasive.

32. Regarding the double patenting rejection, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

33. Regarding the 35 U.S.C. § 103(a) rejection(s), applicant argues that Suzuki does not disclose biodegradable fibers, however as discussed above, Suzuki teaches that the process can be applied to natural fibers, such as silk, which are inherently biodegradable (**see para. 15**). Additionally, at the time of invention, it would have been *prima facie* obvious to one of ordinary skill in the art to modify the method of Suzuki to include biodegradable filaments, because the

specific type of filament is an intended use of the final filament, and a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Further, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

34. With respect to claims 4-9, applicant presents no further arguments other than those addressed above with respect to claim 1.

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art documents appear to be the scientific journal articles published by the applicant: Suzuki et al. (*PET Microfiber Prepared by Carbon Dioxide Laser Heating*) and Suzuki et al. (*Mechanical Properties and Microstructure of Poly(ethylene terephthalate) Microfiber Prepared by Carbon Dioxide Laser Heating*); the following documents do not qualify under 35 U.S.C. § 102 but are still relevant to applicant's disclosure; Suzuki (*Superstructure and mechanical properties of poly(L-lactic acid) microfibers prepared by CO₂ laser-thinning*) and Suzuki et al. (*Zone Drawing and Zone Annealing of Poly(ethylene terephthalate) Microfiber Prepared by CO₂ Laser Thinning*).

36. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

37. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN SCHIFFMAN whose telephone number is (571) 270-7626. The examiner can normally be reached on Monday through Thursday from 9AM until 4PM.

39. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHRISTINA JOHNSON can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

40. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BENJAMIN SCHIFFMAN/
Examiner, Art Unit 1791

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791